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Quality Engineering Test Report

SERIES: PQ-100 100W AC-DC QUAD OUTPUT SWITCHING POWER SUPPLY

SAMPLE:	**A : PQ-100B**	**V1:**	**5V / 10A**	**C : PQ-100D**	**V1:**	**5V / 5A**
		V2:	**12V / 3.5A**		**V2:**	**12V / 2A**
		V3:	**-5V / 0.5A**		**V3:**	**24V / 2A**
		V4:	**-12V / 0.5A**		**V4:**	**-12V / 0.5A**
	B :PQ-100C	**V1:**	**5V / 8A**	**D :PQ-100E**	**V1:**	**5V / 8A**
		V2:	**15V / 3.5A**		**V2:**	**12V / 3A**
		V3:	**-5V / 0.5A**		**V3:**	**15V / 0.6A**
		V4:	**-15V / 0.5A**		**V4:**	**24V / 0.6A**

NO	TEST ITEM	TEST CONDITION / SPECIFICATION	RESULT	VERDICT
1	AC INPUT VOLTAGE RANGE	I/P:TESTING SPEC:100~264VAC O/P:FULL LOAD	A:81.96VAC~267VAC	P
2	LINE REGULATION	I/P:100~264VAC SPEC: O/P:FULL LOAD A: V1: ±1% V2: ±5% V3: ±1% V4: ±1% B: V1: ±1% V2: ±3% V3: ±1% V4: ±1% C: V1: ±1% V2: ±3% V3: ±1% V4: ±1% D: V1: ±1% V2: ±3% V3: ±1% V4: ±1%	A: V1: 0% ~ 0% V2: 0.009% ~ +1.96% V3: 0% ~ 0% V4: 0% ~ 0% B: V1: 0.119% ~ 0.119% V2: -0.08% ~ +1.3% V3: -0% ~ +0% V4: 0.039% ~ 0.039% C: V1: 0% ~ 0% V2: 0% ~ +0.36% V3: -0.46% ~ +0.05% V4: 0% ~ 0% D: V1: 0% ~ 0% V2: -0.01% ~ +0.64% V3: 0% ~ 0% V4: 0% ~ 0%	P
3	LOAD REGULATION	I/P:230VAC SPEC: O/P:MIN. TO FULL LOAD A: V1: ±2% V2: ±5% V3: ±1% V4: ±1% B: V1: ±1% V2: ±5% V3: ±1% V4: ±1% C: V1: ±1% V2: ±5% V3: ±5% V4: ±1% D: V1: ±1% V2: ±5% V3: ±1% V4: ±1%	A: V1: 0.49% ~ +0.85% V2: 0.05% ~ +1.78% V3: 0% ~ 0% V4: 0.049% ~ 0.148% B: V1: -0.1% ~ +0% V2: +0.17% ~ +1.6% V3: -0.12% ~ +0.12% V4: 0% ~ 0.04% C: V1: -0.11% ~ +0% V2: +0.47% ~ +0.52% V3: +0.33% ~ +1.10% V4: 0% ~ +0.05% D: V1: -0.12% ~ +0.12% V2: +0.74% ~ +1.28% V3: +0.08% ~ +0.04% V4: +0.02% ~ 0.02%	P
4	OUTPUT VOLTAGE TOLERANCE	I/P:100~264VAC SPEC: O/P:A:MIN TO FULL LOAD A: V1: ±3% V2: ±12% V3: ±6% V4: ±6% B:MIN TO FULL LOAD B: V1: ±2% V2: ±6% V3: ±6% V4: ±6% C:MIN TO FULL LOAD C: V1: ±2% V2: ±6% V3: ±10% V4: ±6% D:MIN TO FULL LOAD D V1: ±2% V2: ±6% V3: ±6% V4:	A: V1: -1.47% ~ +0.118% V2: -3.29% ~ +7.38% V3: -0.37% ~ +0.377% V4: -0.05% ~ +0.305% B: V1: -0.13% ~ +0.19% V2: -2.43% ~ +6.53% V3: -0.38% ~ +0.24% V4: +0.05% ~ +0.132% C: V1: -0.23% ~ +0.11% V2: -2.3% ~ +2.8% V3: -7.7% ~ +7.3% V4: -0.10% ~ +0.05% D: V1: +1.24% ~ +1.62% V2: -3.65% ~ +2.08% V3: +1.00% ~ +1.17% V4: +0.67% ~ +0.75%	P

		±6%		

NEXT

NO	TEST ITEM	TEST CONDITION / SPECIFICATION	RESULT	VERDICT
5	RIPPLE & NOISE	I/P:230VAC O/P:FULL LOAD SPEC: A: V1: 80mV V2: 250mV V3: 80mV V4: 120mV B: V1: 80mV V2: 150mV V3: 80mV V4: 150mV C: V1: 80mV V2: 120mV V3: 180mV V4: 120mV D: V1: 80mV V2: 120mV V3: 150mV V4: 120mV	A: V1: 5mV V2: 9V V3: 8mV V4: 9mV B: V1: 2mV V2: 6mV V3: 9mV V4: 5mV C: V1: 9mV V2: 9mV V3: 57mV V4: 26mV D: V1: 7mV V2: 16mV V3: 28mV V4: 39mV	P
6	AC INPUT CURRENT	I/P:230VAC O/P:FULL LOAD SPEC:1.5A	A:1.209A	P
7	MAX. INRUSH CURREN	I/P:230VAC O/P: FULL LOAD SPEC:50A	A:38.87A	P
8	O/P VOLTAGE ADJ.RANGE	I/P:230VAC O/P:MIN. LOAD SPEC:CH1:-5%~+10%	A: 4.54V~5.83V B: 4.41V~5.81V C: 4.42V~5.81V D: 4.48V~5.80V	P
9	SET UP TIME	I/P:230VAC O/P:FULL LOAD SPEC:1200mS	A: 795mS	P
10	HOLD UP TIME	I/P:230VAC O/P:FULL LOAD SPEC:20mS	A: 108mS	P
11	EFFICIENCY	I/P:230VAC O/P:FULL LOAD SPEC: A:72% B:74% C:77% D:74%	A:73.24% B:75.3% C:79.71% D:75.65%	P
12	OVER LOAD PROTECTION	I/P:230VAC O/P:TESTING SPEC:105%~135%	A:120% B:124% C:119% D:142%	P
13	OVER VOLTAGE PROTECTION	I/P:230VAC O/P:TESTING SPEC: CH15.75~6.75V	A:6.25V B:6.29V C:5.97V D:6.32V	P
14	GROUND LEAKAGE CURRENT	I/P:240VAC SPEC: L-FG--<1mA N-FG--<1mA	A: L-FG:0.32mA N-FG:0.34mA	P
15	GRUNDING CONTINUITY	SPEC: FG--CHASSIS<0.1Ohms/2min	B: --------mOhms	P
16	INSULATION RESISTANCE	SPEC: I/P-O/P: 500VDC/100MOhms MIN. I/P-FG: 500VDC/100MOhms MIN. O/P-FG: 500VDC/100MOhms MIN.	A: O/P-FG >100MOhms I/P-O/P >100MOhms I/P-FG >100MOhms	P
17	DIELECTRIC / WITHSTAND VOLTAGE	SPEC: I/P- O/P: 3KVAC/ 1 min. (10mA CUT-OFF) I/P - FG: 1.5KVAC/ 1 min. (10mA CUT-OFF) O/P - FG: 0.5KVAC/ 1 min. (10mA CUT-OFF)	A: I/P-O/P :6.33mA I/P-FG :2.37mA O/P-FG :0.95mA	P
18	BURN-IN TEST	I/P: 230VAC O/P: FULL LOAD TA:23.6°C BURN-IN DURATION :2hrs	A:NON BREAK	P

PREVIOUS NEXT

<table>
<tr><th>NO</th><th>TEST ITEM</th><th>TEST CONDITION / SPECIFICATION</th><th>RESULT</th><th>VERDICT</th></tr>
<tr><td rowspan="3">19</td><td rowspan="3">ENVIRONMENT TEST</td><td>1.LOW TEMPERATURE TEST
I/P:230 VAC O/P:FULL LOAD
AMBIENT TEMPERATURE:-10.0°C</td><td>C:
AFTER 2 hrs
POWER ON OK</td><td rowspan="3">P</td></tr>
<tr><td>2.HIGH AMBIENT TEMPERATURE FULL LOAD TEST
I/P:230VAC O/P:FULL LOAD
AMBIENT TEMPERATURE:42.2°C</td><td>C :
AFTER 17hrs
NON BREAK</td></tr>
<tr><td>3.High Humidity, High Voltage After On/Off Test
I/P:272VAC O/P:FULL LOAD
AMBIENT TEMPERATURE:25°C
AMBIENT HUMIDITY:95%</td><td>C :
AFTER 15 hrs
POWER ON/OFF OK</td></tr>
<tr><td>20</td><td>TEMPERATURE RISE TEST T rise OF PARTS</td><td colspan="2">C: I/P :230VAC AFTER 2 hr BURN-IN WITH COOLING 17CFM FAN
O/P :FULL LOAD TA:23.6°C
<table>
<tr><th></th><th>POSITION</th><th>P/N</th><th>TEMP</th><th>T rise</th></tr>
<tr><td></td><td>BD1</td><td>BRIDGE DIODE</td><td>49.3°C</td><td>25.7°C</td></tr>
<tr><td></td><td>Q1</td><td>MAIN TRANSISTOR</td><td>54.9°C</td><td>31.3°C</td></tr>
<tr><td></td><td>T1</td><td>MAIN TRANSFORMER COIL</td><td>80.5°C</td><td>56.9°C</td></tr>
<tr><td></td><td>T1</td><td>MAIN TRANSFORMER CORE</td><td>55.5°C</td><td>31.9°C</td></tr>
<tr><td></td><td>C24</td><td>O/P FILTER CAPACITOR</td><td>42.6°C</td><td>19.0°C</td></tr>
<tr><td></td><td>LF1</td><td>LINE FILTER TRANSFORMER</td><td>42.8°C</td><td>19.2°C</td></tr>
<tr><td></td><td>C5</td><td>I/P FILTER CAPACITOR</td><td>44.5°C</td><td>20.9°C</td></tr>
<tr><td></td><td>D5</td><td>O/P DIODE</td><td>53.3°C</td><td>29.7°C</td></tr>
</table></td><td>P</td></tr>
<tr><td>21</td><td>LIFE CYCLE</td><td colspan="2">C: SUPPOSE C24 IS THE MOST CRITICAL COMPONENT
I/P:230VAC O/P:FULL LOAD Ta:25°C Tc24:44.0°C Life: 370404hrs
I/P:230VAC O/P:FULL LOAD Ta:50°C Tc24:60.5°C Life: 118025hrs</td><td>P</td></tr>
<tr><td>22</td><td>CRITICAL COMPONENT RECORD (FOR QC INSPECTION REFERENCE ONLY)</td><td colspan="3">C: FUSE :4AL/250V UL
BRIDGE DIODE :D3SB60
LINE FILTER :TF096-R2 EE-25
TRANSFOMER TF571
POWER SWITCHER :2SK727 TO-3P
OUTPUT DIODE :D83-004 TO-3P
OUTPUT CAPACITOR :ELNA 3300uF/10V RJH 105°C
INPUT CAPACITOR :HITACHI 150uF/400V HP-3 85°C
P.C.B PQ-100 CEM-1 2 OZ SS</td></tr>
<tr><th>DATE</th><th>SAMPLE</th><th>TEST RESULT</th><th>TEST</th><th>APPROVAL</th></tr>
<tr><td>19990113</td><td>RD SAMPLE PQ100</td><td>PASS</td><td>H.C.LIOU</td><td>Max Lin</td></tr>
<tr><td>19990325</td><td>9903B18 PRODUCTION SAMPLE PQ-100 B,C,D,E</td><td>1.9903B18 O.L.P. RANGE:130% ~160% PASS</td><td>H.C.LIOU</td><td>Max Lin</td></tr>
<tr><td></td><td>9910B09</td><td></td><td></td><td></td></tr>
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19991021	PRODUCTION SAMPLE PQ-100D	PASS	C.C.CHEN	Max Lin

20000517	A005B11 PRODUCTION SAMPLE PQ-100C	PASS	VINCENT	Max Lin
20000707	A007A16 PRODUCTION SAMPLE PQ-100B	PASS	VINCENT	Max Lin

PREVIOUS